

Reduced Fat Lipid Based Filling Making

1. The cheese powder, corn syrup solids, and vitamin are weighed together and blended in a Hobart (model A-200) mixer for 3 minutes at speed setting #3.
- 5 2. Next, the Olean®, kaomel flakes, and KLX flakes are weighed and then mixed together in a container.
3. The Olean® / kaomel / KLX flake mixture is melted by heating until the temperature reaches 159-162 F. For lab scale, can be accomplished on a hot plate.
4. The melted fat blend is added slowly to the dry mix from step 1 above while the Hobart is mixing on speed #3. Mixing is continued for 4 minutes at speed #3.
- 10 5. The mixture is cooled through the temperature range of 130°F-140°F in less than about 10 minutes to ensure the proper crystallizing structure. This can usually be accomplished by ambient cooling for lab batch sizes.
6. The resulting filling is used immediately to prepare sandwich crackers.

Preparation of Sandwich Crackers

1. 1.4-1.6 grams of cheese filling prepared above is applied to the bottom side of a base cake prepared above. For small quantities, the filling is applied via a spatula in the lab. For pilot scale quantities, the filling is dosed into 1.5 gram portions via a Rheon extruder (model # KN170) which are placed onto the base cake. In either case, the filling is applied to the base cake at a temperature of about 80 F. It is applied within 1 hour from the time the molten lipid is mixed with the dry filling ingredients.
- 20 3. The top base cake is then applied with enough pressure so that the filling flows out to meet the edge of the base cake.
4. Steps 1 and 2 are repeated for the desired number of sandwich crackers.
- 25 5. The sandwiches are placed on a tray, covered with a plastic bag, and allowed to sit, undisturbed for 12 hours.

30 Vibration Testing

Sandwich crackers made according to the above procedure were weighed, packed into foil bags, placed into boxes, and vibrated according to the Vibration Test described above. Ritz Bits cheese sandwich crackers (code 1040AX14) obtained from a local grocery were 35 also weighed, packed, and subjected to the same vibration test. The result was 12% separation for the Ritz Bits cheese sandwich crackers, and 0.9% for the sandwich crackers made according the above procedures.

Example 2Reduced Fat Lipid Based Filling Formulation

Ingredient	%
Defatted Peanut Flour (Golden Peanut, Blakely, GA)	34.9
Olestra (Procter and Gamble, Cincinnati, OH)	30.9
Peanut Chunks (Procter and Gamble, Cincinnati, OH)	19.0
Sugar, Powdered 12X (Tate Lyle, Baltimore, MD)	9.0
Hydrogenated High Erucic Acid Rapeseed Oil (ADM, Decatur, IL)	2.5
Peanut Paste (Procter and Gamble, Cincinnati, OH)	2.0
Salt (Morton Salt, Chicago, IL)	1.5
ADK Vitamin Powder (BASF, Wyandotte, MI)	0.2

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Reduced Fat Lipid Based Filling Making

1. A Hobart mixer, model C-100, is preheated and maintained at 150°F with a custom water jacket.

10 2. The Olean® is weighed and added to the mixer. It is melted while mixing at speed setting #1.

3. The remaining ingredients are weighed.

4. Sugar and salt are added together to the Olean® and mixed for 5 minutes at speed #1.

15 5. The peanut flour is slowly added to the Hobart mixer and mixing continues at speed #1 for 15 minutes.

6. Next, the peanut paste is added and mixed for 10 minutes at speed #1.

7. The hydrogenated rapeseed oil is melted in a small beaker using a microwave.

8. The oil is then added to the mixture and mixed for 10 minutes at speed #1.

20 9. Vitamin powder was added next and also mixed for 10 minutes at setting #1.

10. Finally, the peanut chunks were slowly added to the mixture and allowed to mix for 10 minutes at speed #1.

11. The resulting filling is transferred to a storage container for future use.

25 Preparation of Sandwich Crackers

1. The peanut filling prepared above is heated to 150°F in a covered stainless steel pot using a water bath. The filling is stirred occasionally.

2. Once the temperature is attained, the filling is removed from the water bath and allowed to cool. It must be cooled through the temperature range 130°F - 140°F in less than about 10 minutes to ensure the proper crystallizing structure. This can usually be accomplished by ambient cooling for lab and pilot scale quantities.

5 3. 1.4 to 1.6 grams of peanut filling is applied to the bottom side of a base cake prepared in example 1. For small quantities, the filling is applied via a spatula in the lab. For pilot scale quantities, the filling is dosed into 1.5 gram portions via an Oden Pro/Fill 3000. In either case, the filling is applied to the base cake at a temperature of about 120°F. It is applied within 1 hour of the temperature dipping below 150°F.

10 4. The top base cake is then applied with enough pressure so that the filling flows out to meet the edge of the base cake.

5. Steps 3 and 4 are repeated for the desired number of sandwich crackers.

6. The sandwiches are placed on a tray, covered with a plastic bag and allowed to sit, undisturbed for 12 hours.

15 Vibration Testing

Sandwich crackers made according to the above procedure were weighed, packed into foil bags, placed into boxes and vibrated according to the Vibration Test described above. Ritz Bits peanut butter sandwich crackers (code 0350AX13) obtained from a local grocery store were also weighed, packed, and subjected to the same vibration test. The result was 1.0% separation for the Ritz Bits peanut butter sandwiches, compared with 0.0% for the sandwich crackers made according to the above procedures.

25 INCORPORATION BY REFERENCE

All of the aforementioned patents, publications, and other references are herein incorporated by reference in their entirety.

Also incorporated herein by reference are P&G Provisional Applications 8303P ("Low Moisture, Reduced Fat, Lipid-Based Fillings," Trout et al.), 8304P ("Reduced Saturated Fat Lipid-Based Fillings," Trout et al.), 8305P ("Filled Snacks," Heisey et al.), and 8306P ("Low Fat Nut Spread Composition and Process for Making the Same," Wong et al.), all filed October 23, 2000.